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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HOLMES, JUSTIN K

ART UNIT PAPER NUMBER

3681

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/798,173	Applicant(s) LEBER ET AL.	
	Examiner Justin K. Holmes	Art Unit 3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 13 and 17 were previously subject to an election of species requirement. Pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), claims 13 and 17, directed to a method of using a product, previously withdrawn from consideration as a result of an election of species requirement, now subject to being rejoined. Claims 13 and 17 are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Since all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, the election of species requirement made in the Office action mailed on July 12, 2005 is hereby withdrawn.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Applicant has submitted corrected informal drawings for Fig. 1. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-16, 19, 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5,509,520 to Evans et al. in view of U.S. Patent Publication No. 2001/0036882 to Hrazdera.

Regarding Claims 12, 13, 23 and 24, the Evans et al. patent teaches a method for operating a drive train 102 for an earth moving machine 100 having an engine 104 connected to a torque converter 106 with an impeller element 108 and a turbine element 112 to power a transmission 114 such that the impeller element 108 is connected to an impeller clutch 116. See column 2, lines 36-61 and Fig. 1. The Evans et al. patent further teaches that impeller clutch is used to control the speed of the machine. The torque converter speed is determined and a torque converter speed error is determined by subtracting the measured torque converter speed from the desired speed and is used to control the speed of the machine. Thus the Evans et al. patent teaches that the actual speed of the machine corresponds to the desired speed of the vehicle. See column 4, lines 6-17. The Evans et al. patent further teaches that the earth moving machine 100 can provide full power to implement hydraulics while independently moving the machine. See column 7, lines 13-23. The Evans et al. patent lacks a teaching of controlling the speed of the drive engine directly as a function of a demand of the auxiliary drive which is specified by a control lever.

The Hrazdera publication teaches a method for controlling the drive mechanism of a utility vehicle having a power take off shaft. The Hrazdera publication teaches that a power take off shaft clutch 2 is connected to an engine. The power take off clutch is

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controlled by a controller 10 connected to a switch 11 for switching on and off the power take off shaft. See page 3, paragraph 0028. The user actuates the switch 11 and the controller 10 provides a command to the regulator 25 so that the nominal speed at which the torque of the engine is sufficient to start up the power take off shaft. The controller 10 can issue instructions to speed up the engine as needed. See page 3, paragraphs 0038. The "control lever" as broadly recited in claim 12, 13 and 23 is defined as the switch in the Hrazdera publication.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. device to control the speed of the drive engine directly as a function of a demand of the auxiliary drive which is specified by a control lever as taught by the Hrazdera publication in order to increase the convenience of operating the earth moving vehicle. See page 2 paragraph 0013 of the Hrazdera publication.

Regarding claims 13, 23 and 24, the Hrazdera publication teaches that nominal speed of the engine which the torque is sufficient to run the implement. See page 3, paragraph 0038. Accordingly, the speed of the engine can be viewed as having a direct correlation with the torque of the engine.

Regarding Claims 14 and 15, the Evans et al. patent teaches that the brakes are used to control the speed of the machine. Also, the brakes can be used to slow down the machine if the actual speed is greater than the specified speed. Column 4, lines 10-17.

Regarding Claims 16 and 17, the Evans et al. patent teaches that an electronic control module receives information from an engine speed sensor 128 to operate the clutch 118. Column 3, lines 1-20.

Regarding Claim 19, the Evans et al. patent teaches that an accelerator pedal is provided to manually control the speed of the engine. Column, 3, lines 40-45.

Regarding Claim 20, the Evans et al. patent teaches that an electrohydraulic control device 124 controls the actuation of the clutch and that the clutch is actuated using a proportional integral subroutine. See column 5, lines 65-67.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,509,520 to Evans et al. and U.S. Patent Publication No. 2001/0036882 to Hrazdera as applied to claim 12 above, and further in view of U.S. Patent Publication No. 2003/0000790 A1 to Ackerman.

The Evans et al. patent and Hrazdera publication lack a teaching of locating the clutch inside the converter housing and cooling the clutch by a liquid present in the converter housing.

The Ackerman publication teaches a hydrodynamic torque converter 1 having an outer housing 7 that encloses an impeller 17, turbine wheel 19 and a lockup clutch 56. The lockup clutch 56 includes a piston 54 and a friction lining 68. The friction lining 68 has grooves 80 that allow hydraulic fluid to enter to be used as a coolant to cool the clutch 56. See page 4, paragraph 0040 and 0044 and Fig. 2.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. patent and Hrazdera

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publication to locate the clutch inside the converter housing and cooling the clutch by a liquid present in the converter housing as taught by the Ackerman publication to provide for effective cooling action in the friction area while good energy efficiency is still provided. See page 2, paragraph 0011 of Ackerman.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,509,520 to Evans et al. and U.S. Patent Publication No. 2001/0036882 to Hrazdera as applied to claim 12 above, and further in view of U.S. Patent No. 6,876,913 to Segawa et al.

The Evans et al. patent and Hrazdera publication lack a teaching that the clutch is actuated by an actuation pressure which is adjusted as a function of an actual pressure inside a converter housing.

The Segawa et al. patent teaches a torque converter 1, having an impeller 1a, a turbine runner 1b and a lockup clutch 2 which is actuated by a differential pressure (PA-PR) between an application pressure PA and a release pressure PR. The lockup clutch uses a controller programmed to calculate a speed increase of the rate of the turbine runner from the rotation speed of the turbine runner and determine a target oil pressure based on a pressure increase rate which is set to increase as the speed increase rate increase, and cause the oil pressure control valve to supply the target oil pressure to the lockup clutch. Accordingly, the actuation pressure of clutch is determined by the actual pressure inside the converter housing. See column 2, lines 11-39.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. patent and Hrazdera publication to

actuate the clutch by an actuation pressure which is adjusted as a function of an actual pressure inside a converter housing as taught by the Segawa et al. patent to prevent engine rotation speed fluctuation that accompanies the lockup of the lockup clutch. See column 2, lines 7-11 of the Segawa et al. patent.

7. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,509,520 to Evans et al. and U.S. Patent Publication No. 2001/0036882 to Hrazdera as applied to claim 12 above, and further in view of U.S. Patent Publication No. 2001/0017248 to Inoue et al.

The Evans et al. patent and Hrazdera publication lack a teaching of locating the clutch outside the converter housing and cooling the clutch by a coolant liquid.

The Inoue et al. publication teaches a fluid coupling 4 having a wet type multi plate friction clutch 8 outside the fluid coupling housing. The multi plate friction clutch 8 is lubricated and cooled by operation fluid that is fed into passage 891 to lubricate and cool portions of the multi plate friction clutch 8. See page 4, paragraph 0036 and Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. patent and Hrazdera publication to locate the clutch outside the converter housing and cooling the clutch by a coolant liquid as taught by the Inoue et al. publication to provide a device that compactly circulates

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operation fluid through the fluid coupling and the wet type friction clutch. See page 1, paragraph 0006 of the Inoue et al. publication.

Response to Arguments

9. Applicant's arguments with respect to claims 12-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 6,482,124 to Hormann et al.; U.S. Patent No. 6,173,225 to Stelzle et al.; U.S. Patent No. 3,966,254 to Guhl et al.; U.S. Patent No.

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3,595,343 to Williamson; U.S. Publication No. 2003/0070859; and U.S. Publication No. 2002/0043420 to Otsuni et al. teach power take off controls.

Facsimile Transmission

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

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Typed or printed name of person signing this certificate:

(Signature)


If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin K. Holmes whose telephone number is (571) 272-5930. The examiner can normally be reached on 8:00am to 4:30pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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